AD-A129 103 TRACKING HAZARDOUS MATERIALS THROUGH ARMY INSTALLATIONS: A FEASIBILITY STUDY(U) CONSTRUCTION ENGINEERING RESEARCH LAB (ARMY) CHAMPAIGN IL 1/1

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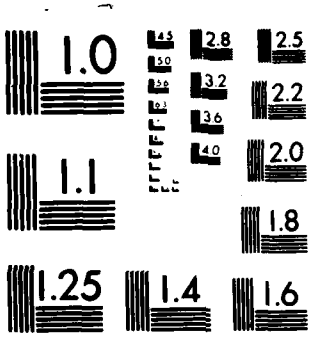

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Technical Report N-149
April 1983

TRACKING HAZARDOUS MATERIALS THROUGH ARMY INSTALLATIONS: A FEASIBILITY STUDY

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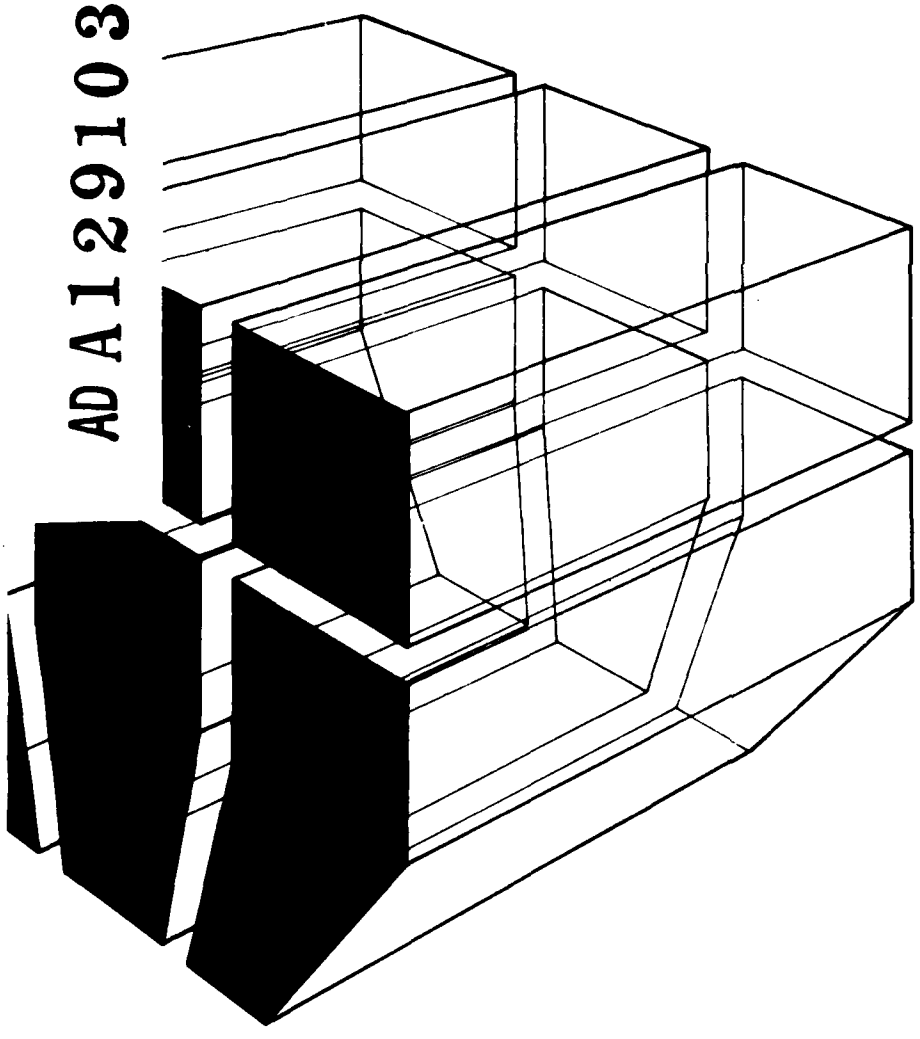

by
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REPORT DOCUMENTATION PAGE	READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER CERL-TM-N-149	2. GOVT ACCESSION NO. A129 203 / 3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Tracking Hazardous Materials Through Army Installations: A Feasibility Study	5. TYPE OF REPORT & PERIOD COVERED FINAL 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Manette Messenger John T. Bandy Ronald D. Webster Steven F. Railsback	8. CONTRACT OR GRANT NUMBER(s) FAD No. MP-81-6
9. PERFORMING ORGANIZATION NAME AND ADDRESS US ARMY CONSTRUCTION ENGINEERING RESEARCH LAB. P.O. Box 4005 Champaign, IL 61820	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Office of the Chief of Engineers Washington, DC 20314	12. REPORT DATE April 1983 13. NUMBER OF PAGES
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)	15. SECURITY CLASS. (of this report) UNCLASSIFIED 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

Copies are obtainable from the National Technical Information Service
Springfield, VA 22151

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

hazardous materials
management information systems

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The handling, storage, and disposal of hazardous materials has recently become the focus of stringent regulation under the Resource Conservation and Recovery Act. One requirement of this Act is that all generators of legally defined hazardous wastes report to the U.S. Environmental Protection Agency on the volumes and types of wastes produced. One way to produce such a report is to track hazardous materials from procurement to disposal.

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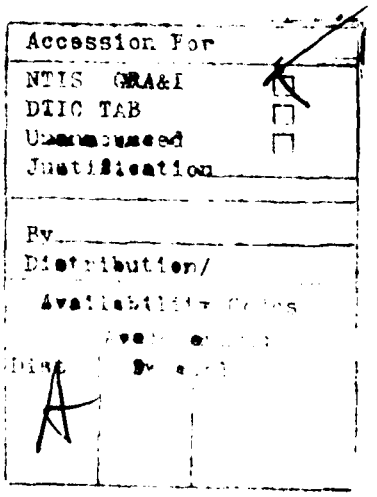
This research investigated the feasibility of tracking hazardous materials through procurement, distribution, use, collection, and disposal of U.S. Army fixed facilities. It was found that a complete tracking system would require major changes to materials distribution and accountability procedures. Implementing complete tracking procedures would be very costly at military installations because of the great diversity of hazardous materials procured and the large numbers of activities which use them. In addition, some of the information required for a complete tracking system is not available.

Another tracking system investigated was the monitoring of procurement data. This type of system has been used successfully at two installations and it is recommended that it be tried at others on an experimental basis.

FOREWORD

This study was funded by the Assistant Chief of Engineers, under FAD No. MP-81-6, dated 12 August 1981. The work was performed by the Environmental Division (EN) of the U.S. Army Construction Engineering Research Laboratory (CERL). The Project Monitoring Ofice was DAEN-ZCF. Dr. R. K. Jain is Chief of EN.

COL Louis J. Circeo is Commander and Director of CERL, and Dr. L. R. Shaffer is Technical Director.



CONTENTS

		Page
	DD FORM 1473	1
	FOREWORD	3
1	INTRODUCTION	5
	Background	
	Objective	
	Approach	
2	REQUIRED AND AVAILABLE INFORMATION	6
	Required Information	
	Available Information	
	Information Which Is Not Available	
3	COMPLETE TRACKING OF MATERIALS	11
4	TRACKING BY ANALYSIS OF PROCUREMENT DATA	12
5	CONCLUSIONS AND RECOMMENDATIONS	15
	APPENDIX: COBOL Listing	16
	DISTRIBUTION	

TRACKING HAZARDOUS MATERIALS THROUGH ARMY INSTALLATIONS: A FEASIBILITY STUDY

1 INTRODUCTION

Background

The hazardous waste regulations set forth by the Resource Conservation and Recovery Act (RCRA) in May 1980 regulate the treatment, storage, and disposal of toxic, ignitable, reactive, and corrosive substances. One requirement of the regulation is that all generators of hazardous wastes report to the U.S. Environmental Protection Agency (USEPA) the volume and types of hazardous wastes produced. Military installations, rather than their individual tenants, are considered hazardous waste generators subject to all RCRA requirements.

To fulfill these legal requirements for the many diverse activities the installations support, information is needed concerning which tenant organizations are procuring hazardous materials, the volume of the materials, and their ultimate disposition. Such information is also helpful to the installation Environmental Officer in assessing the magnitude of a hazardous waste problem.

Objective

The objective of this study was to review two different types of hazardous materials tracking systems: one involved complete tracking from procurement through disposal, using existing documents and information systems, and the other monitoring procurement data only.

Approach

The "paper trail" that describes procured materials was defined by analyzing Army procurement, warehousing, and disposal functions used for hazardous materials at five Army installations. The hazardous material tracking systems in use at Oak Ridge National Laboratory and Fort Devens were studied also.

2 REQUIRED AND AVAILABLE INFORMATION

Required Information

To track hazardous materials from entry through departure, a complete paper trail of each item is needed, including:

1. What was bought. This information is most useful if available by both National Stock Number (NSN) and chemical name.

2. Who bought it.

3. Where it will be used and stored.

4. Carton size and type and number of cartons bought.

5. When it was ordered and received. It is also helpful to know how fast each item is expected to be used.

6. Shelf life of item.

7. How much of each item will be consumed in use, and how much can be expected to be turned in to the Property Disposal Office (PDO).

8. What and how much is actually being turned in to PDO, and by whom.

9. An accurate, comprehensive list of hazardous materials, by name and NSN.

Available Information

Procurement, warehousing, and disposal procedures for hazardous materials were analyzed at five installations; Fort Knox, KY; Fort Campbell, KY; Fort Hood, TX; Fort Lewis, WA; and Fort Devens, MA.

Supply and Services Division (SSD)

The SSD on most installations keeps extensive, automated records on materials ordered. The Standard Army Intermediate Level Supply (SAILS) system is the vehicle used to order most chemical items for an installation. One of the reports available from the SAILS system is the Consolidated Transaction Register (Figure 1). This information includes the NSN of the items on order, a Department of the Defense Activity Code (DODAC) which specifies the buyer's unit, the carton size, the quantity ordered, and a hazard code which specifies whether the item is radioactive, poisonous, flammable, or an oxidizer. Inquiry programs are available to retrieve this information by either NSN or DODAC number. SAILS keeps records that are both detailed enough and accessible enough to supply much of the required information listed in requirements 1, 2, 4, and 5 above. The hazard code is not available with enough frequency or detail to provide information requirement number 9. The SSD inputs the required data into SAILS, but the system is actually operated by the

```
PREPARED 81 OCT 21      CYCLE  JR301          CONSOLIDATED TRANSACTION REGISTER          PCN ALB-211                    CUTOFF  81203

MGR      SN/PN            NOM      UI CONFAC MCSC  SOS AC SCIC PSPC PHSE SL ECC EXP AAC          UP     TI
   PD  DIC       DON        DODAAC PRJ AS SF MGMT MEC RICE CDT  ODIC    RSN          TRN QTY      QTY OH      QTY DI      QTY DO

16  6810002863785   METHYL ISO GL 00001  R2200 S9G     0     U        0        X   D          $5.19 0

    DIC C33 CONFAC 00000 UI DR MCSC R2200 PSPC U SL 7 EXP X PHSE   DLA 01274 IA    CDT 1274 ODIC C33 RSN                UP 000137.01
16  6810002904166   XYLENE,TEC DR 00001  R2200 S9G     0     U        7        X   D        $135.11 0

    DIC C33 CONFAC 00000 UI QT MCSC R2200 PSPC U SL 0 EXP X PHSE   DLA 01274 IA    CDT 1274 ODIC C33 RSN                UP 000001.19
16  6810002929676   METHANOL T QT 00001  R2200 S9G     0     U        0        X   D          $1.22 0

    DIC C33 CONFAC 00000 UI QT MCSC R2200 PSPC U SL 7 EXP X PHSE   DLA 01274 IA    CDT 1274 ODIC C33 RSN                UP 000002.32
16  6810005798431   TOLUENE TE QT 00001  R2200 S9G     0     U        7        X   D          $2.37 0

    DIC C33 CONFAC 00000 UI CN MCSC R2200 PSPC U SL 7 EXP X PHSE   DLA 01274 IA    CDT 1274 ODIC C33 RSN                UP 000014.34
16  6810005844070   XYLENE,TEC CN 00001  R2200 S9G     0     U        7        X   D         $15.43 0

    DIC C33 CONFAC 00000 UI GL MCSC R2200 PSPC U SL 0 EXP X PHSE   DLA 01274 IA    CDT 1274 ODIC C33 RSN                UP 000003.56
16  6810005973608   METHANOL T GL 00001  R2200 S9G     0     U        0        X   D          $3.79 0

    DIC C33 CONFAC 00000 UI GL MCSC R2200 PSPC U SL 7 EXP X PHSE   DLA 01274 IA    CDT 1274 ODIC C33 RSN                UP 000003.72
16  6810005986600   XYLENE TEC GL 00001  R2200 S9G     0     U        7        X   D          $3.74 0

    DIC C33 CONFAC 00000 UI PT MCSC R2200 PSPC U SL 6 EXP X PHSE   DLA 01274 IA    CDT 1274 ODIC C33 RSN                UP 000001.40
16  6810007542813   TRICHLORDE PT 00001  R2200 S9G     0     U        6        X   D          $1.43 0

    DIC C33 CONFAC 00000 UI CN MCSC R2200 PSPC U SL 0 EXP X PHSE   DLA 01274 IA    CDT 1274 ODIC C33 RSN                UP 000027.27
16  6810008191128   TETRACHLOR CN 00001  R2200 S9G     0     U        0        X   D         $27.87 0
```

Figure 1. Example SAILS output.

installation computer services at Management Information Systems Office (MISO).

Items procured locally are handled through the SAILS system at most installations by assigning a Local Stock Number (LSN) to them. LSNs are not correlated among installations, but rather assigned sequentially as needed. Therefore, it is impossible to prepare a list of hazardous materials by LSNs. Estimates of the percentage of chemical items procured locally range from insignificant to about 25 percent, depending on the installation.

Warehouse

Frequently, the DODAC code listed in the SAILS Transaction Register will be that of the Directorate of Industrial Operations (DIO) warehousing function. DIO attempts to stockpile items which are used in quantity and those which are critical to the installation's operations. Therefore, the DODAC code listed in SAILS often does not represent the chemical's ultimate user.

Warehouse records differ among installations, but none are automated. A local requisition form is needed to procure items from the warehouse. The information required on these forms varies, but almost always includes the DODAC code or a verbal description of the unit procuring the item. Generally, warehouse records contain enough information to satisfy requirement 3 on page 6. However, this information is not readily accessible, nor is it in a consistent form among installations.

When an item leaves the warehouse, its paper trail stops. There is no accountability for materials. The unit which has the item can use it, store it for a long or short time, trade it for something else with another unit, or return it to the warehouse. The feasibility of tracking chemicals all the way through an installation is lost at this point.

Property Disposal Office

Once a chemical has been used, its byproducts must be turned in to the PDO. Used solvents, contaminated fuels, and used motor oil are the chemicals most frequently turned in to PDO for reuse within DOD, or for resale to industry, which cleans and resells them.

The PDO requires that a standardized document accompany all items that are turned in (DD Form 1348). These records are almost never automated. An item may be stored for up to 6 months while avenues for its reuse/resale are explored. The PDO is a DOD, rather than an Army, function. Every major Army installation has a PDO, but it serves a much larger community than the installation's SSD. Reserve units, Corps of Engineers recreation areas, camps, and other outposts must turn used chemicals in to the nearest PDO. This practice also limits the feasibility of tracking installation chemical use.

In addition, the PDO publishes a hazardous property notification list each month. Figure 2 is an example list. Sometimes the PDO does not have enough space to store hazardous materials; in this case, the physical custody of the material remains with the generating unit, while PDO accepts accountability for it.

4750 DPDR SY0 CYCLE 04 AS OF 80305 IDMS HAZARDOUS PROPERTY NOTIFICATION LIST DPDO SZP PAGE 3

LJAA6502 USABLE PROPERTY

NSN	TID	NOUN NAME	HAZD CODE	CARGO CODE	IDMS CODED	GSA COND	SITE	SCL/ LOCATION	UI	QTY O/H	FIRST TIME RCPT	DO NOT ACCEPT	FIRST TIME CODE
8030 00 2460933	N004060148F666	SEALING COMPOUND		Z	H	H9	AO	LS8010075	TU	144			*
8030 00 2460933	R0468901308787	SEALING COMPOUND		Z	H	HX	AO	D041636AO	TU	22			*
8030 00 3443666	FB447902040487	SEALING COMPOUND		Z	H	HX	AO	LS8010078	KT	4			*
8040 00 7542483	FB447902070153	ADHESIVE			H	F9	AO	LS8010078	BT	103			
8120 00 1519747	N0040600672513	CYLINDER, COMPRESSED	FF	G	M	HX	AO	LS8120099	EA	1			
8120 00 1519749	N004060178F584	CYLINDER, COMPRESSED	FF	G	M	HX	AO	D031527AO	EA	6			*
8120 00 1781597	N7402201502E01	CYLINDER, COMPRESSED		E	H	HX	AO	D031547AO	EA	4			
8120 00 2446981	R0583301086179	CYLINDER, COMPRESSED	FF	G	H	HX	AO	LS8120099	BT	4			
8120 00 2683360	N004060080F597	CYLINDER, COMPRESSED	FF	G	H	HX	AO	D031200AO	EA	13			
8120 00 2683360	N0040600802560	CYLINDER, COMPRESSED	FF	G	H	HX	AO	S81017006	EA	7			
8120 00 6633019	N0040602620001	CYLINDER, COMPRESSED	FF	G	M	HX	AO	D021501AO	EA	1			
8140 00 4260946	W68EVP02841000	BOX, PACKING, AMMUNIT	CI	P	M	HX	AO	C020600AO	EA	120			
8340 00 2625767	W68EVQ02843003	REPAIR KIT, TENTAGE		Z	H	H9	AO	A040219BO	EA	1			*
8465 00 1774819	W68EVQ01903030	SURVIVAL KIT, INDIVI			H	HX	AO	LS8465230	EA	10			*
8465 00 1774819	W68EVQ02533024	SURVIVAL KIT, INDIVI			H	HX	AO	A020417AO	EA	12			*
8465 00 1774819	W68EVQ02753005	SURVIVAL KIT, INDIVI			H	H9	AO	A040333BO	EA	5			*
8465 00 1774819	W68EVQ02943003	SURVIVAL KIT, INDIVI			H	HX	AO	A040216BO	EA	8	*		
9150 00 1429361	N6340201710064	LUBRICANT, SOLID FIL	BN	R	M	H9	AO	D041510AO	GL	2			
9150 00 2234129	FB447902130105	LUBRICATING OIL, INS	BN	R	M	F9	AO	D041533AO	QT	24			
9150 00 2234129	W66MRS01625629	LUBRICATING OIL, INS	BN	R	M	B1	AO	D041523AO	QT	22			
9150 00 7540064	R0468900370788	LUBRICANT, SOLID FIL		U	H	FX	AO	LS8010078	CN	56			*
9150 00 9547422	N004060178F581	LUBRICANT, SOLID FIL	BN	R	M	A3	AO	LS8010077	QT	22			
9150 00 9547422	N6340201500569	LUBRICANT, SOLID FIL	BN	R	M	H9	AO	D041525AO	QT	20			
9150 00 9547422	N6340202280002	LUBRICANT, SOLID FIL	BN	R	M	HX	AO	D041521AO	CT	11			
9160 00 6860913	R0468900660721	INSULATING OIL, ELEC		Z	H	FX	AO	LS8010075	CN	10			*
8120 00 2683360	W87QZ292847410	CYLINDER, COMPRESSED	FF	G	H	HX	CO	A190101A3	EA	4			*
5960 00 6696807	FB462002400130	ELECTRON TUBE		M	H	A6	DO	A010137BO	EA	1			
6810 00 2817450	J246PL01352000	MERCURY, ACS	CH	Z	H	HX	DO	A010150AO	BT	1			
6840 00 2466436	FX462001320006				H	A1	DO	H010101AO	CN	1			*
6840 00 2646684	FX462001320008				H	A1	DO	H010101AO	CN	1			*
8010 00 5273198	FB462002000277	ENAMEL		R	H	A3	D*	A011001AO	GL	8			*
8010 01 0234260	FB647102600262	POLYURETHANE COATIN		Z	H	HX	D*	A011001AO	KT	1			*
8010 01 0234261	FB647102600266	POLYURETHANE COATIN		Z	H	HX	D*	A011001AO	KT	1			*
8040 00 1449774	FB462002130361	ADHESIVE			H	A6	D*	A011001AO	CA	5			*
6140 00 2831311	N0062002198052	BATTERY, STORAGE			H	HX	EO	SECURITY2	EA	1061			

USABLE ITEMS IN INVENTORY 123

Figure 2. Lxample hazardous property notification list.

Information Which Is Not Available

A complete paper trail on chemical items used at Army installations is not available. Thus, information requirements 6, 7, and 9 (p 6) remain unmet. This greatly limits the feasibility of using existing records to completely track hazardous materials throughout the installation. However, a list of NSNs correlated with chemical name, trade name, and military and Federal specifications is being developed by the U.S. Army Construction Engineering Research Laboratory. It will be part of the Hazardous Materials Management System (HMMS) and is scheduled for completion in September 1984.

3 COMPLETE TRACKING OF MATERIALS

Oak Ridge National Laboratory in Oak Ridge, TN -- a research laboratory operated by Union Carbide Corporation for the Department of Energy -- has begun using an automated system to keep complete track of entering hazardous materials.

A central storeroom procures all materials. All requests for materials must contain the Chemical Abstracts Registry (CAS) number; these numbers are screened against a database of 1500 CAS numbers which have been procured in the past. If a number is not found, a Material Safety Data Sheet (MSDS) is requested from the manufacturer. Based on the information in that document, the material is classified as hazardous or nonhazardous. If it is hazardous, labels are printed with the chemical name, CAS registry number, health and safety information, and a bar code similar to those used in supermarkets to identify an item. This label is placed on all containers of that material in the storeroom as soon as they are received. At the same time, the label information and the amount of the material received is input by storeroom personnel into a computer database.

All personnel must wear badges with computer-readable bar codes which identify them and their division. When a chemical is checked out of the storeroom, portable bar code readers run over the bar codes on the chemical container and the personnel badge and inform the computer the quantity of the chemical being checked out and who has it. Semi-annual inventories are performed. Each lab manager must then account for chemicals checked out to his/her employees by estimating the amount consumed in use, counting the quantity in stock, and turning in used chemicals for disposal. Chemicals to be disposed of are tracked to the trench number at the landfill where they are buried on-site, or to the off-site disposer.

The computer database can be searched by chemical name, CAS number, employee name, or division. When a chemical is ordered, this database is checked first to see if there is an excess anywhere in the laboratory. Statistical studies determine which items should be stocked on a regular basis, who the heavy users of hazardous chemicals are, and if consistent amounts are being reported as consumed. The system runs on a PDP 10 computer, written in the 1022 language. All hardware and software was installed for less than $10,000. Operational costs are minimal. Further information about this system is available in "Hazardous Material - Management and Control," a January 1982 internal publication, and in "Hazardous Materials Management and Control Program at Oak Ridge National Laboratory," *Journal of the American Industrial Hygienists Association*, Vol 42, No. 12, p 880.

The Oak Ridge system is an excellent, cost-effective approach to use in a laboratory setting. However, the volume of materials procured by Army installations and the diverse activities that use them probably preclude using such an approach at installations. At Fort Knox, the SAILS system records 20,000 to 30,000 transactions every day. Screening this number of transactions for hazardous chemicals alone would involve a major effort, as would an installation-wide inventory. In addition, a major revamping of present procurement procedures would be necessary.

4 TRACKING BY ANALYSIS OF PROCUREMENT DATA

Environmental Officers at two FORSCOM installations -- Fort Devens and Fort Lewis -- are developing computer systems to search the SAILS transaction register against a list of NSNs known to represent hazardous chemicals. This provides them with information on what is being brought on post and by whom. The system at Fort Devens (described below) is operational.

The Safety Hazardous Information Tracking System was designed during 1981 at the Fort Devens Environmental Office and programmed at the installation MISO. This system merges the Defense Logistics Agency's Hazardous Materials Information System (HMIS) database and the Army Environmental Hygiene Agency's (AEHA) database of NSNs correlated with EPA hazardous waste number; then the stock numbers are run against a tape of the installation's SAILS ABX document history file (X50 ALB) for the past 90 days. For every NSN in the SAILS file that is found in the merged database of hazardous materials, a listing is created that contains the following information:

SAILS: NSN, quantity ordered/received, data, and DODAC code

AEHA: EPA hazardous waste number, chemical name

HMIS: Chemical name, military spec, formulation, selected physical/chemical properties, handling and storage instructions, and waste disposal options.

Figure 3 provides a sample listing from this system, which is still under development; plans for the future include translating the DODACs into a name and address; adding the HMIS trade name; correlating the HMIS storage compatibility code with EPA hazardous waste numbers; translating the SAILS codes for ordered/received/on-hand into words; producing an alphabetic listing by chemical name; and identifying items found for the first time. Figure 4 shows these changes. The program runs on the SAILS computer, an IBM 350/60, written in COBOL. The appendix provides a listing.

A similar system was designed and operated at Fort Lewis in 1981; however, due to a change in how SAILS is used there, the system is not currently working.

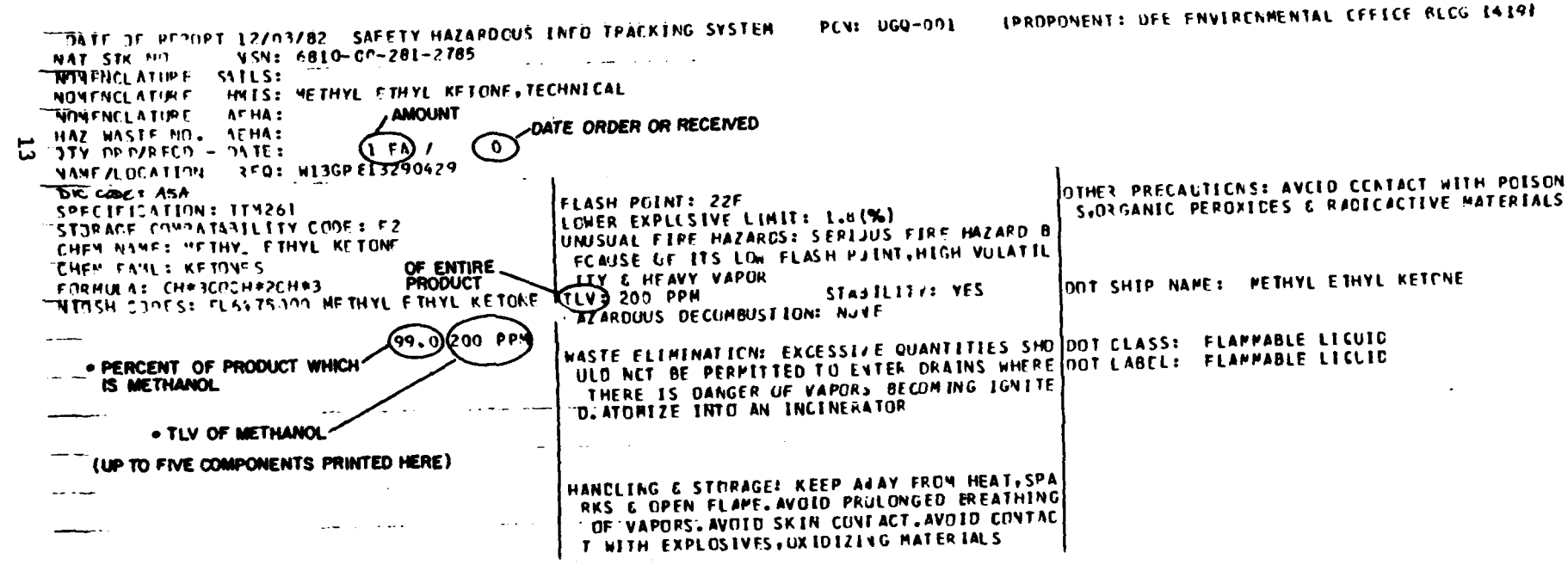


Figure 3. Sample output from Fort Devens program.

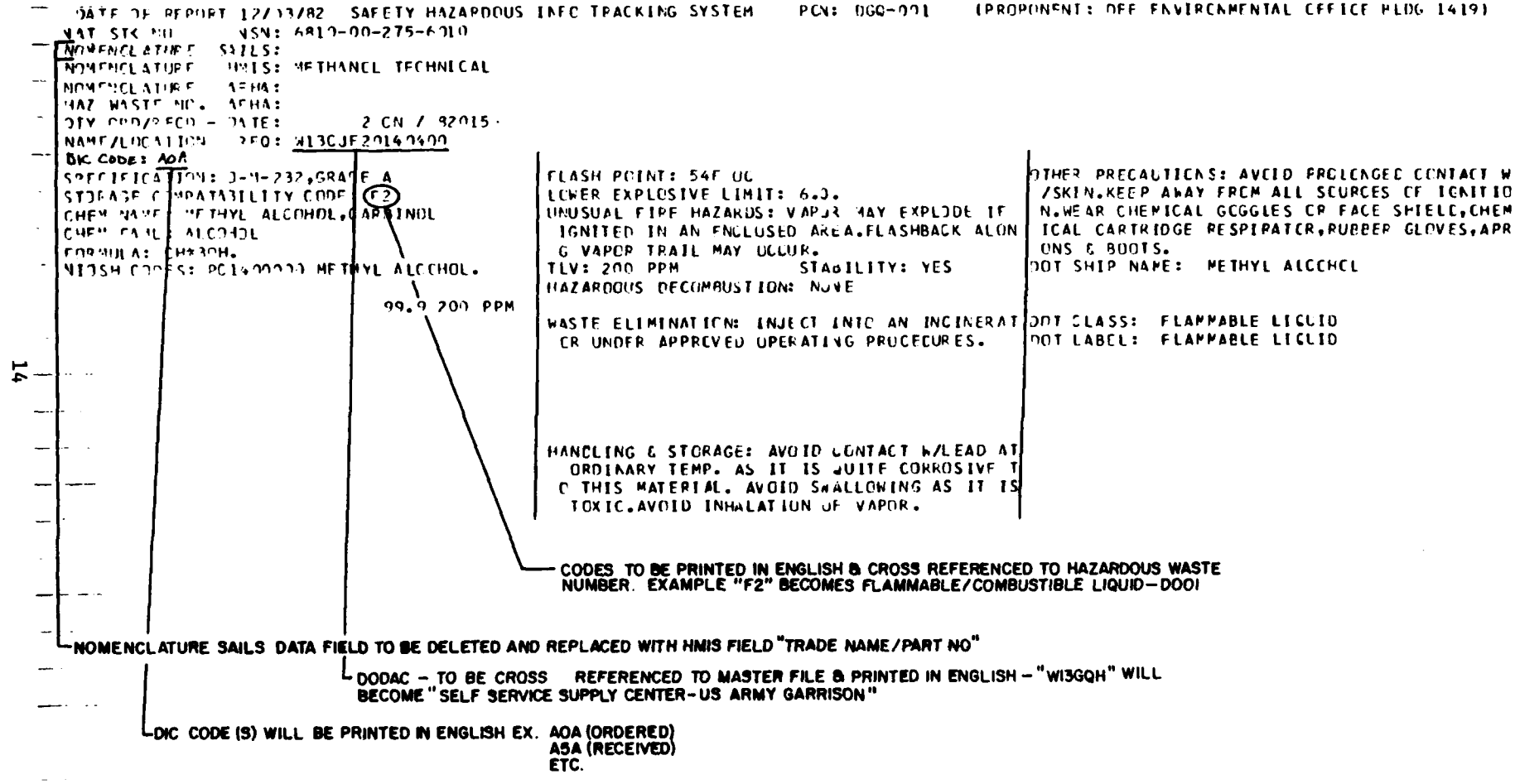


Figure 4. Changes to Fort Devens program.

5 CONCLUSIONS AND RECOMMENDATIONS

Two types of tracking systems were studied and assessed for application to Army procedures:

1. Institution of a complete tracking system to follow hazardous materials from the time they enter the installation until they leave it would require major revamping of material distribution and accountability procedures. While it is possible to have complete tracking procedures on a small scale, such as at Oak Ridge National Laboratory, such procedures would be extremely costly at a military installation.

2. Systems to provide information on hazardous materials procurement have been operated successfully at two Army installations. These systems have shown great merit, and standardizing and transporting them to other installations should be attempted on an R&D basis.

There is no list of NSNs which meet a variety of hazardous criteria. Such a list, which is necessary to the success of systems interfacing with procurement data, is being developed by CERL. It should be interfaced with the existing systems at Fort Devens and Lewis when available.

APPENDIX: COBOL LISTING

```
        IDENTIFICATION DIVISION.
        PROGRAM-ID. DGQ01P.
        ENVIRONMENT DIVISION.
        CONFIGURATION SECTION.
        SOURCE-COMPUTER.
            IBM-360-F50.
        OBJECT-COMPUTER.
            IBM-360-F50.
        INPUT-OUTPUT SECTION.
        FILE-CONTROL.
            SELECT HAZMAS  ASSIGN SYS012-UT-2400-S.
001110      SELECT DOC-HIST ASSIGN TO SYS013-UT-2400-S.
            SELECT PRT-OUT ASSIGN TO SYS011-UT-2400-S.
        DATA DIVISION.
        FILE SECTION.
001160 FD  DOC-HIST
001170      RECORDING MODE IS V
001180      LABEL RECORDS ARE STANDARD
001190      RECORD CONTAINS 208 TO 6280 CHARACTERS
001210      DATA RECORD IS DOC-FILE.
002010 01  DOC-FILE.
002020      02  DO-DAC       PIC X(14).
002030      02  NSN          PIC X(13).
002040      02  FILLER       PIC X(93).
002050      02  SEG-1        PIC X(88).
002060      02  SEG-2        PIC X(88).
002070      02  SEG-3        PIC X(88).
002080      02  SEG-4        PIC X(88).
002090      02  SEG-5        PIC X(88).
002100      02  SEG-6        PIC X(88).
002110      02  SEG-7        PIC X(88).
002120      02  SEG-8        PIC X(88).
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002140      02  SEG-10       PIC X(88).
002150      02  SEG-11       PIC X(88).
002160      02  SEG-12       PIC X(88).
002170      02  SEG-13       PIC X(88).
002180      02  SEG-14       PIC X(88).
002190      02  SEG-15       PIC X(88).
002200      02  SEG-16       PIC X(88).
002210      02  SEG-17       PIC X(88).
002220      02  SEG-18       PIC X(88).
002230      02  SEG-19       PIC X(88).
002240      02  SEG-20       PIC X(88).
003010      02  SEG-21       PIC X(88).
003020      02  SEG-22       PIC X(88).
003030      02  SEG-23       PIC X(88).
003040      02  SEG-24       PIC X(88).
003050      02  SEG-25       PIC X(88).
003060      02  SEG-26       PIC X(88).
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003070      02  SEG-27      PIC X(88).
003080      02  SEG-28      PIC X(88).
003090      02  SEG-29      PIC X(88).
003100      02  SEG-30      PIC X(88).
003110      02  SEG-31      PIC X(88).
003120      02  SEG-32      PIC X(88).
003130      02  SEG-33      PIC X(88).
003140      02  SEG-34      PIC X(88).
003150      02  SEG-35      PIC X(88).
003160      02  SEG-36      PIC X(88).
003160      02  SEG-37      PIC X(88).
003160      02  SEG-38      PIC X(88).
003160      02  SEG-39      PIC X(88).
003160      02  SEG-40      PIC X(88).
003160      02  SEG-41      PIC X(88).
003160      02  SEG-42      PIC X(88).
003160      02  SEG-43      PIC X(88).
003160      02  SEG-44      PIC X(88).
003160      02  SEG-45      PIC X(88).
003160      02  SEG-46      PIC X(88).
003160      02  SEG-47      PIC X(88).
003160      02  SEG-48      PIC X(88).
003160      02  SEG-49      PIC X(88).
003160      02  SEG-50      PIC X(88).
003160      02  SEG-51      PIC X(88).
003160      02  SEG-52      PIC X(88).
003160      02  SEG-53      PIC X(88).
003160      02  SEG-54      PIC X(88).
003160      02  SEG-55      PIC X(88).
003160      02  SEG-56      PIC X(88).
003160      02  SEG-57      PIC X(88).
003160      02  SEG-58      PIC X(88).
003160      02  SEG-59      PIC X(88).
003160      02  SEG-60      PIC X(88).
003160      02  SEG-61      PIC X(88).
003160      02  SEG-62      PIC X(88).
003160      02  SEG-63      PIC X(88).
003160      02  SEG-64      PIC X(88).
003160      02  SEG-65      PIC X(88).
003160      02  SEG-66      PIC X(88).
003160      02  SEG-67      PIC X(88).
003160      02  SEG-68      PIC X(88).
003160      02  SEG-69      PIC X(88).
003160      02  SEG-70      PIC X(88).
        FD  HAZMAS
            RECORDING MODE IS F
            BLOCK CONTAINS 4 RECORDS
            RECORD CONTAINS 1780 CHARACTERS
            LABEL RECORDS ARE STANDARD
            DATA RECORD IS HAZ-OUT.
```

```
01  HAZ-OUT.
    02  S-NSN.
        03  ALL-DIG PIC X(13).
    02  NSN-BRK REDEFINES S-NSN.
        03  S-FST-1 PIC XXXX.
        03  S-FST-2 PIC XX.
        03  S-FST-3 PIC XXX.
        03  S-FST-4 PIC XXXX.
    02  FILLER              PIC X.
    02  S-ITEM-NAME         PIC X(48).
    02  FILLER              PIC XX.
    02  S-SPEC              PIC X(20).
    02  FILLER              PIC X.
    02  S-STOR-COMP         PIC X(5).
    02  FILLER              PIC X.
    02  S-CHEM-NAME         PIC X(25).
    02  FILLER              PIC X.
    02  S-CHEM-FAM          PIC X(25).
    02  FILLER              PIC X.
    02  S-FORMULA           PIC X(20).
    02  FILLER              PIC X.
    02  S-NIOSH.
        03  ALL-NIOSH       PIC X(605).
    02  NIOSH-BRK REDEFINES S-NIOSH.
        03  S-NI-1          PIC X(30).
        03  S-NI-2          PIC X(42).
        03  S-NI-3          PIC X(42).
        03  S-NI-4          PIC X(42).
        03  S-NI-5          PIC X(42).
        03  S-NI-6          PIC X(42).
        03  S-NI-7          PIC X(42).
        03  S-NI-8          PIC X(42).
        03  S-NI-9          PIC X(42).
        03  S-NI-10         PIC X(42).
        03  S-NI-11         PIC X(42).
        03  S-NI-12         PIC X(42).
        03  S-NI-13         PIC X(42).
        03  S-NI-14         PIC X(42).
        03  S-NI-15         PIC X(29).
    02  FILLER              PIC X.
    02  S-FLASH-PT          PIC X(16).
    02  FILLER              PIC X.
    02  S-LOW-EXP           PIC XXXX.
    02  FILLER              PIC X.
    02  S-UN-FIRE.
        03  ALL-FIRE        PIC X(100).
    02  UN-FIRE-BRK REDEFINES S-UN-FIRE.
        03  S-UFH-1         PIC X(21).
        03  S-UFH-2         PIC X(42).
        03  S-UFH-3         PIC X(37).
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02  FILLER              PIC X.
02  S-THRES             PIC X(15).
02  FILLER              PIC X.
02  S-STABIL            PIC XXX.
02  FILLER              PIC X.
02  S-HAZ-DECOM.
    03  ALL-H-DECOM     PIC X(60).
02  HAZ-BRK REDEFINES S-HAZ-DECOM.
    03  S-HD-15         PIC X(19).
    03  S-HD-16         PIC X(41).
02  FILLER              PIC X.
02  S-WASTE-ELIM.
    03  ALL-WASTE       PIC X(250).
02  WASTE-BRK REDEFINES S-WASTE-ELIM.
    03  S-WA-1          PIC X(24).
    03  S-WA-2          PIC X(42).
    03  S-WA-3          PIC X(42).
    03  S-WA-4          PIC X(42).
    03  S-WA-5          PIC X(42).
    03  S-WA-6          PIC X(42).
    03  S-WA-7          PIC X(16).
02  FILLER              PIC X.
02  S-HAND.
    03  ALL-HAND        PIC X(150).
02  HAND-BRK REDEFINES S-HAND.
    03  S-HAN-1         PIC X(23).
    03  S-HAN-2         PIC X(42).
    03  S-HAN-3         PIC X(42).
    03  S-HAN-4         PIC X(43).
02  FILLER              PIC X.
02  S-OTHER.
    03  ALL-OTHER       PIC X(192).
02  OTHER-BRK REDEFINES S-OTHER.
    03  S-PC-9          PIC X(25).
    03  S-PC-10         PIC X(43).
    03  S-PC-11         PIC X(43).
    03  S-PC-12         PIC X(43).
    03  S-PC-13         PIC X(38).
02  FILLER              PIC X.
02  M-DOT-NAM.
    03  ALL-DOT-NAM PIC X(100).
02  DOT-NAME-BRK REDEFINES M-DOT-NAM.
    03  S-DN-14         PIC X(29).
    03  S-DN-15         PIC X(43).
    03  S-DN-16         PIC X(28).
02  FILLER              PIC X.
02  M-DOT-CLASS         PIC X(23).
02  FILLER              PIC X.
02  M-DOT-LABEL         PIC X(25).
02  FILLER              PIC X.
```

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           02  R-NOMEN          PIC X(55).
           02  FILLER           PIC X.
           02  R-CODE           PIC XXXX.
       FD  PRT-OUT
           LABEL RECORDS ARE STANDARD
           BLOCK CONTAINS 10 RECORDS
           DATA RECORDS ARE PRINT
           RECORD CONTAINS 133 CHARACTERS.
003201 01  PRINT  PIC X(133).
004010 WORKING-STORAGE SECTION.
       77  INDATE1      PIC X(7).
       77  OUTDATE1     PIC X(9).
       77  RETCODE      PIC X.
       77  OPCODE       PIC XX.
       77  INDATE2      PIC X(5).
       01  HDR-1.
           02  FILLER  PIC X(17)   VALUE '1 DATE OF REPORT '.
           02  DATE-P  PIC X(9).
           02  FILLER  PIC X(38)   VALUE ' SAFETY HAZARDOUS INFO TRACKIN
      -    'G SYSTEM'.
           02  FILLER  PIC X(20)   VALUE '     PCN: DGQ-001     '.
           02  FILLER  PIC X(47)   VALUE '(PROPONENT: DFE ENVIRONMENTAL
      -    'OFFICE BLDG 1419)'.
       01  HDR-2.
           02  FILLER  PIC X(22)   VALUE  ' NAT STK NO      NSN: '.
           02  NSN-P   PIC X(16).
       01  HDR-3.
           02  FILLER  PIC X(22)   VALUE ' NOMENCLATURE  SAILS: '.
           02  NOM-S   PIC X(55)   VALUE SPACES.
       01  HDR-4.
           02  FILLER  PIC X(22)   VALUE ' NOMENCLATURE   HMIS: '.
           02  NOM-H   PIC X(48).
       01  HDR-5.
           02  FILLER  PIC X(22)   VALUE ' NOMENCLATURE   AEHA: '.
           02  NOM-A   PIC X(55).
       01  HDR-6.
           02  FILLER  PIC X(22)   VALUE ' HAZ WASTE NO.  AEHA: '.
           02  WASTE-N PIC XXXX.
       01  HDR-7.
           02  FILLER  PIC X(22)   VALUE ' QTY ORD/RECD - DATE: '.
           02  P-QTY   PIC ZZZZZZ9.
           02  FILLER  PIC X       VALUE SPACE.
           02  P-UI    PIC XX.
           02  FILLER  PIC XXX     VALUE ' / '.
           02  P-RECD  PIC ZZZZ9.
       01  HDR-8.
           02  FILLER  PIC X(22)   VALUE ' NAME/LOCATION   REQ: '.
           02  P-DODAC PIC X(14).
       01  HDR-8A.
           02  FILLER  PIC X(11)   VALUE ' DIC CODE: '.
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    02  P-DIC    PIC XXX.
01  HDR-9.
    02  FILLER   PIC X(16)   VALUE 'OSPECIFICATION: '.
    02  P-SPEC   PIC X(20).
    02  FILLER   PIC X(9)    VALUE SPACES.
    02  FILLER   PIC X(13)   VALUE 'FLASH POINT: '.
    02  P-FLASH  PIC X(16).
    02  FILLER   PIC X(15)   VALUE SPACES.
    02  FILLER   PIC X(19)   VALUE 'OTHER PRECAUTIONS: '.
    02  P-PC-9   PIC X(25).
01  HDR-10.
    02  FILLER   PIC X(29)  VALUE ' STORAGE COMPATABILITY CODE: '.
    02  P-SCC    PIC X(5).
    02  FILLER   PIC X(11)   VALUE SPACES.
    02  FILLER   PIC X(23)   VALUE 'LOWER EXPLOSIVE LIMIT: '.
    02  P-LEX    PIC X(4).
    02  FILLER   PIC X(18)   VALUE SPACES.
    02  P-PC-10  PIC X(43).
01  HDR-11.
    02  FILLER   PIC X(12)   VALUE ' CHEM NAME: '.
    02  P-C-N    PIC X(25).
    02  FILLER   PIC X(8)    VALUE SPACES.
    02  FILLER   PIC X(22)   VALUE 'UNUSUAL FIRE HAZARDS: '.
    02  P-UFH-1  PIC X(21).
    02  FILLER   PIC XX      VALUE SPACES.
    02  P-PC-11  PIC X(43).
01  HDR-12.
    02  FILLER   PIC X(12)   VALUE ' CHEM FAML: '.
    02  P-C-F    PIC X(25).
    02  FILLER   PIC X(9)    VALUE SPACES.
    02  P-UFH-2  PIC X(42).
    02  FILLER   PIC XX      VALUE SPACES.
    02  P-PC-12  PIC X(43).
01  HDR-13.
    02  FILLER   PIC X(10)   VALUE ' FORMULA: '.
    02  P-FORM   PIC X(20).
    02  FILLER   PIC X(16)   VALUE SPACES.
    02  P-UFH-3  PIC X(37).
    02  FILLER   PIC X(7)    VALUE SPACES.
    02  P-PC-13  PIC X(38).
    02  FILLER   PIC X(5)    VALUE SPACES.
01  HDR-14.
    02  FILLER   PIC X(14)   VALUE ' NIOSH CODES: '.
    02  P-NI-1   PIC X(30).
    02  FILLER   PIC X(6)    VALUE ' TLV: '.
    02  P-THRES  PIC X(15).
    02  FILLER   PIC X(14)   VALUE '   STABILITY: '.
    02  P-STAB   PIC XXX.
    02  FILLER   PIC X(22)   VALUE '        DOT SHIP NAME: '.
    02  P-DN-14  PIC X(29).
```

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01  HDR-15.
    02  FILLER   PIC XX       VALUE SPACES.
    02  P-NI-2   PIC X(42).
    02  FILLER   PIC X(25)    VALUE ' HAZARDOUS DECOMBUSTION: '.
    02  P-HD-15  PIC X(19).
    02  FILLER   PIC XX       VALUE SPACES.
    02  P-DN-15  PIC X(43).
01  HDR-16.
    02  FILLER   PIC XX       VALUE SPACES.
    02  P-NI-3   PIC X(42).
    02  FILLER   PIC XX       VALUE SPACES.
    02  P-HD-16  PIC X(41).
    02  FILLER   PIC XXX      VALUE SPACES.
    02  P-DN-16  PIC X(28).
    02  FILLER   PIC X(15)    VALUE SPACES.
01  HDR-17.
    02  FILLER   PIC XX       VALUE SPACES.
    02  P-NI-4   PIC X(42).
    02  FILLER   PIC X(20)    VALUE ' WASTE ELIMINATION: '.
    02  P-WA-1   PIC X(24).
    02  FILLER   PIC X(12)    VALUE ' DOT CLASS: '.
    02  P-D-C    PIC X(23).
    02  FILLER   PIC X(10)    VALUE SPACES.
01  HDR-18.
    02  FILLER   PIC XX       VALUE SPACES.
    02  P-NI-5   PIC X(42).
    02  FILLER   PIC XX       VALUE SPACES.
    02  P-WA-2   PIC X(42).
    02  FILLER   PIC X(12)    VALUE ' DOT LABEL: '.
    02  P-D-L    PIC X(25).
    02  FILLER   PIC X(8)     VALUE SPACES.
01  HDR-19.
    02  FILLER   PIC XX       VALUE SPACES.
    02  P-NI-6   PIC X(42).
    02  FILLER   PIC XX       VALUE SPACES.
    02  P-WA-3   PIC X(42).
    02  FILLER   PIC X(45)    VALUE SPACES.
01  HDR-20.
    02  FILLER   PIC XX       VALUE SPACES.
    02  P-NI-7   PIC X(42).
    02  FILLER   PIC XX       VALUE SPACES.
    02  P-WA-4   PIC X(42).
    02  FILLER   PIC X(45)    VALUE SPACES.
01  HDR-21.
    02  FILLER   PIC XX       VALUE SPACES.
    02  P-NI-8   PIC X(42).
    02  FILLER   PIC XX       VALUE SPACES.
    02  P-WA-5   PIC X(42).
    02  FILLER   PIC X(45)    VALUE SPACES.
01  HDR-22.
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           02  FILLER   PIC XX       VALUE SPACES.
           02  P-NI-9   PIC X(42).
           02  FILLER   PIC XX       VALUE SPACES.
           02  P-WA-6   PIC X(42).
           02  FILLER   PIC X(45)    VALUE SPACES.
       01  HDR-23.
           02  FILLER   PIC XX       VALUE SPACES.
           02  P-NI-10  PIC X(42).
           02  FILLER   PIC XX       VALUE SPACES.
           02  P-WA-7   PIC X(16).
           02  FILLER   PIC X(71)    VALUE SPACES.
       01  HDR-24.
           02  FILLER   PIC XX       VALUE SPACES.
           02  P-NI-11  PIC X(42).
           02  FILLER   PIC X(21)    VALUE ' HANDLING & STORAGE: '.
           02  P-HAN-1  PIC X(23).
           02  FILLER   PIC X(45)    VALUE SPACES.
       01  HDR-25.
           02  FILLER   PIC XX       VALUE SPACES.
           02  P-NI-12  PIC X(42).
           02  FILLER   PIC XX       VALUE SPACES.
           02  P-HAN-2  PIC X(42).
           02  FILLER   PIC X(45)    VALUE SPACES.
       01  HDR-26.
           02  FILLER   PIC XX       VALUE SPACES.
           02  P-NI-13  PIC X(42).
           02  FILLER   PIC XX       VALUE SPACES.
           02  P-HAN-3  PIC X(42).
           02  FILLER   PIC X(45)    VALUE SPACES.
       01  HDR-27.
           02  FILLER   PIC XX       VALUE SPACES.
           02  P-NI-14  PIC X(42).
           02  FILLER   PIC XX       VALUE SPACES.
           02  P-HAN-4  PIC X(43).
           02  FILLER   PIC X(44)    VALUE SPACES.
       01  HDR-28.
           02  FILLER   PIC XX       VALUE SPACES.
           02  P-NI-15  PIC X(29).
           02  FILLER   PIC X(103)   VALUE SPACES.
004170 01  WRK-1.
004180     02  FILLER   PIC X(6).
004190     02  R-UI     PIC XX.
004200     02  FILLER   PIC XXX.
004201     02  R-QTY    PIC S9(7)    COMP-3 VALUE +0.
           02  A-QTY REDEFINES R-QTY.
               03  E-1 PIC X(4).
           02  FILLER   PIC X(10).
           02  R-RECD   PIC S9(5)    COMP-3  VALUE +0.
           02  A-RECD REDEFINES R-RECD.
               03  R-1 PIC XXX.
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            02  FILLER  PIC X(57).
005020      02  R-DIC   PIC XXX.
                88  CDE-1   VALUE 'A0A'.
                88  CDE-2   VALUE 'A0E'.
                88  CDE-3   VALUE 'A5A'.
                88  CDE-4   VALUE 'A5E'.
005030      02  R-DIC-A REDEFINES R-DIC.
005050          03  D-2 PIC X.
005040          03  D-1 PIC XX.
        01  NSN-NO.
            02  MAJ  PIC X(13).
        01  NSN-CODE.
            02  FST-1   PIC XXXX.
            02  FILLER  PIC X   VALUE '-'.
            02  FST-2   PIC XX.
            02  FILLER  PIC X   VALUE '-'.
            02  FST-3   PIC XXX.
            02  FILLER  PIC X   VALUE '-'.
            02  FST-4   PIC XXXX.
        PROCEDURE DIVISION.
            OPEN INPUT HAZMAS DOC-HIST OUTPUT PRT-OUT.
            MOVE SPACES TO PRINT.
            MOVE 'KK' TO OPCODE.
            CALL 'S23ATP' USING INDATE1 OUTDATE1 RETCODE OPCODE
                          INDATE2.
            MOVE OUTDATE1 TO DATE-P.
        RAG-1.
            READ HAZMAS AT END GO TO END-JOB.
            MOVE S-NSN TO NSN-NO.
        RAG-2.
            READ DOC-HIST AT END GO TO END-JOB.
        COM-PAR.
            IF NSN = MAJ GO TO HIT-1.
            IF NSN > MAJ GO TO RAG-HAZ.
            IF NSN < MAJ GO TO RAG-2.
        RAG-HAZ.
            READ HAZMAS AT END GO TO END-JOB.
            MOVE S-NSN TO NSN-NO.
            GO TO COM-PAR.
        HIT-1.
005170      MOVE SEG-1 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-2 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-3 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-4 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-5 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-6 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-7 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-8 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-9 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-10 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
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005170      MOVE SEG-11 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-12 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-13 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-14 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-15 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-16 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-17 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-18 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-19 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-20 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-21 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-22 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-23 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-24 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-25 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-26 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-27 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-28 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-29 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-30 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-31 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-32 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-33 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-34 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-35 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-36 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-37 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-38 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-39 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-40 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-41 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-42 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-43 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-44 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-45 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-46 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-47 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-48 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-49 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-50 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-51 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-52 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-53 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-54 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-55 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-56 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-57 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-58 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-59 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-60 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
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005170      MOVE SEG-61 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-62 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-63 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-64 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-65 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-66 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-67 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-68 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-69 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
005170      MOVE SEG-70 TO WRK-1 PERFORM LOAD THRU EDIT-EXIT.
            GO TO RAG-2.
        LOAD.
            IF CDE-1 OR CDE-2 OR CDE-3 OR CDE-4 NEXT SENTENCE ELSE
                GO TO EDIT-EXIT.
            IF D-1 = 'XX' GO TO EDIT-EXIT.
            IF R-QTY NUMERIC MOVE R-QTY TO P-QTY, ELSE GO TO EDIT-EXIT.
            IF R-RECD NUMERIC MOVE R-RECD TO P-RECD ELSE MOVE ZEROS TO
                P-RECD.
            MOVE R-DIC TO P-DIC.
            MOVE R-UI TO P-UI.
            MOVE S-FST-1 TO FST-1.
            MOVE S-FST-2 TO FST-2.
            MOVE S-FST-3 TO FST-3.
            MOVE S-FST-4 TO FST-4.
            MOVE NSN-CODE TO NSN-P.
            MOVE DO-DAC TO P-DODAC.
            MOVE S-ITEM-NAME TO NOM-H.
            MOVE R-NOMEN TO NOM-A.
            MOVE R-CODE TO WASTE-N.
            MOVE S-SPEC TO P-SPEC.
            MOVE S-FLASH-PT TO P-FLASH.
            MOVE S-PC-9 TO P-PC-9.
            MOVE S-STOR-COMP TO P-SCC.
            MOVE S-LOW-EXP TO P-LEX.
            MOVE S-PC-10 TO P-PC-10.
            MOVE S-CHEM-NAME TO P-C-N.
            MOVE S-UFH-1 TO P-UFH-1.
            MOVE S-PC-11 TO P-PC-11.
            MOVE S-CHEM-FAM TO P-C-F.
            MOVE S-UFH-2 TO P-UFH-2.
            MOVE S-PC-12 TO P-PC-12.
            MOVE S-FORMULA TO P-FORM.
            MOVE S-UFH-3 TO P-UFH-3.
            MOVE S-PC-13 TO P-PC-13.
            MOVE S-NI-1 TO P-NI-1.
            MOVE S-THRES TO P-THRES.
            MOVE S-STABIL TO P-STAB.
            MOVE S-DN-14 TO P-DN-14.
            MOVE S-NI-2 TO P-NI-2.
            MOVE S-HD-15 TO P-HD-15.
```

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MOVE S-DN-15 TO P-DN-15.
MOVE S-NI-3 TO P-NI-3.
MOVE S-HD-16 TO P-HD-16.
MOVE S-DN-16 TO P-DN-16.
MOVE S-NI-4 TO P-NI-4.
MOVE S-WA-1 TO P-WA-1.
MOVE M-DOT-CLASS TO P-D-C.
MOVE S-NI-5 TO P-NI-5.
MOVE S-WA-2 TO P-WA-2.
MOVE M-DOT-LABEL TO P-D-L.
MOVE S-NI-6 TO P-NI-6.
MOVE S-WA-3 TO P-WA-3.
MOVE S-NI-7 TO P-NI-7.
MOVE S-WA-4 TO P-WA-4.
MOVE S-NI-8 TO P-NI-8.
MOVE S-WA-5 TO P-WA-5.
MOVE S-NI-9 TO P-NI-9.
MOVE S-WA-6 TO P-WA-6.
MOVE S-NI-10 TO P-NI-10.
MOVE S-WA-7 TO P-WA-7.
MOVE S-NI-11 TO P-NI-11.
MOVE S-HAN-1 TO P-HAN-1.
MOVE S-NI-12 TO P-NI-12.
MOVE S-HAN-2 TO P-HAN-2.
MOVE S-NI-13 TO P-NI-13.
MOVE S-HAN-3 TO P-HAN-3.
MOVE S-NI-14 TO P-NI-14.
MOVE S-HAN-4 TO P-HAN-4.
MOVE S-NI-15 TO P-NI-15.
WRITE PRINT FROM HDR-1.
WRITE PRINT FROM HDR-2.
WRITE PRINT FROM HDR-3.
WRITE PRINT FROM HDR-4.
WRITE PRINT FROM HDR-5.
WRITE PRINT FROM HDR-6.
WRITE PRINT FROM HDR-7.
WRITE PRINT FROM HDR-8.
WRITE PRINT FROM HDR-8A.
WRITE PRINT FROM HDR-9.
WRITE PRINT FROM HDR-10.
WRITE PRINT FROM HDR-11.
WRITE PRINT FROM HDR-12.
WRITE PRINT FROM HDR-13.
WRITE PRINT FROM HDR-14.
WRITE PRINT FROM HDR-15.
WRITE PRINT FROM HDR-16.
WRITE PRINT FROM HDR-17.
WRITE PRINT FROM HDR-18.
WRITE PRINT FROM HDR-19.
WRITE PRINT FROM HDR-20.
```

```
           WRITE PRINT FROM HDR-21.
           WRITE PRINT FROM HDR-22.
           WRITE PRINT FROM HDR-23.
           WRITE PRINT FROM HDR-24.
           WRITE PRINT FROM HDR-25.
           WRITE PRINT FROM HDR-26.
           WRITE PRINT FROM HDR-27.
           WRITE PRINT FROM HDR-28.
       EDIT-EXIT.
           EXIT.
       END-JOB.
           CLOSE DOC-HIST HAZMAS PRT-OUT.
           STOP RUN.
```

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